

Changes in North American Fish Names, especially as related to the International Code of Zoological Nomenclature, 1985

Reeve M. Bailey

Museum of Zoology, University of Michigan, Ann Arbor, Michigan 48109–1079, U.S.A.

C. Richard Robins

Rosenstiel School of Marine and Atmospheric Sciences, University of Miami, Miami, Florida 33149–1098, U.S.A.

Abstract. Changes incorporated in the third edition of the International Code of Zoological Nomenclature, published in 1985, are discussed relative to their impact on the nomenclature of North American fishes, but the discussion and conclusions are pertinent to the names of all animals. Species-group names formed from personal names in the genitive case or in the nominative case (as appositional nouns) and as adjectives are of special concern, and each is reviewed in detail. The gender of certain genus-group names, names of divisions of genera, and priority accorded to family-group names are other sections of the Code where changes have affected names of North American fishes.

Introduction

For over half a century the American Fisheries Society (AFS) has had a committee charged with assembly of recommendations for common and scientific names of fishes. An abbreviated List of important North American fishes was published in 1948. Soon thereafter the American Society of Ichthyologists and Herpetologists (ASIH) added its support to the enterprise, and a joint committee representing the two societies continued and expanded the coverage to include all North American freshwater and coastal marine fishes. The second edition of the List appeared in 1960, a year in advance of the first (1961) edition of the International Code of Zoological Nomenclature. Although the committee attempted to follow the incomplete deliberations of the Commission, some of its nomenclatural decisions were at variance with the 1961 Code. As discussed below, the committee's decisions disagreed even more with revisions in the 1964 Code. For the third and fourth editions (1970 and 1980) of the North American List the AFS held to the same principles utilised in 1960, feeling that the rules were far from stabilised, as indicated to us by various Commissioners.

The third edition of the Code, long awaited, was published in 1985. We have studied the new Code carefully with regard to its impact on various projects underway by the Committee on Names of Fishes of the AFS and ASIH. The new edition is more tightly written, many ambiguities have been removed, and an extensive Glossary has been made part of the Code. Many examples and recommendations are given to help explain the Code but neither these nor the appendices are part of the 'legislative' text (p. 1; Art. 87b, p. 179). Of greatest concern to us are Articles 31–34, which deal with species-group names, and Article 35, which deals with family-group names.

This paper attempts to clarify differences and pave the way for uniform interpretations and nomenclatural practices. Although we address chiefly North American fishes as represented on the AFS List of 1980, the comments apply equally to animals of other groups and areas. It is inevitable that a Code as complex as that of zoological nomenclature will be in places open to a variety of interpretations. The interpretations in this article represent our views, held after consultations with colleagues. In an appended note Dr P. K. Tubbs, Executive Secretary of the International Commission on Zoological Nomenclature, draws attention to a case where the present text of the Code may need clarification.

Species-Group Names formed from Personal Names

Article 31a of the Code concerns species-group names formed from personal names. These may be of three types: (1) a noun in the genitive case, (2) a noun in apposition, or (3) an adjective or participle.

(1) Nouns in the genitive case

Article 31a(i) prescribes that: 'A species-group name, if a noun in the genitive case formed from a personal name that is Latin, or from a modern personal name that is or has been latinized, is to be formed in accordance with the rules of Latin grammar.'

The six involved species on the North American list were all correctly given in the 1980 (4th) edition of the AFS List:

Page	AFS-1980 Entry	* Latin or Latinized Personal name	Common name
13	<i>Centroscyllium fabricii</i>	Fabricius	black dogfish
24	<i>Notropis emiliae</i>	Emilia (from Emily)	pugnose minnow
52	<i>Chirolophis ascanii</i>	Ascanius	Atlantic warbonnet
52	<i>Lumpenus fabricii</i>	Fabricius	slender eelblenny
53	<i>Eleotris pisonis</i>	Piso*	spinycheek sleeper
56	<i>Nomeus gronovii</i>	Gronovius (from Gronow)	man-of-war fish

*Treated as a third declension *n*-stem Latin noun (like *leo*).

As noted in the examples that follow Article 31a(i), Latin-form names like *Poda* (a man) may be treated as a latinized name, giving *podae*, or as a modern name, giving *podai*. In such cases original spelling determines use.

The creole wrasse was described as *Brama parrae* by Bloch & Schneider (1801), who treated Parra as a Latin name and placed it in the genitive as *parrae*. This name should therefore be corrected from *Clepticus parrai*, as given on p. 48 of the 1980 List, to *C. parrae* (Bloch & Schneider, 1801).

A Central American catfish was named by Meek (1906) for Sr Don Mañuel Estrada Cabrera, President of Guatemala. The name as proposed was *Rhamdia cabrerai* rather than *cabrerai*. Cabrera was interpreted as a Latin-form name and thus the genitive *cabrerai* is not to be emended. Note that *cabrera*, *cabrerae*, *cabrerai*, and *cabreri* are all acceptable patronyms based on Cabrera under the 1985 Code, and which is correct in any instance depends on the original spelling.

The wahoo, *Acanthocybium solanderi* (p. 55), should be corrected to the original *solandri*; Cuvier treated the name Solander as Latin and as having the genitive *solandri* (cf. the family name SCOMBRIDAE from *Scomber*).

Article 31a(ii) states: 'A species-group name, if a noun in the genitive case formed directly from a modern personal name [emphasis added], is to be formed by adding to the stem of that name -i if the personal name is that of a man, -orum if of men or of man (men) and woman (women) together, -ae if of a woman, and -arum if of women (see Article 11h(i)(3) and Appendix DIII); the stem of such a name is determined by the action of the original author when forming the genitive.'

A predominant fraction of patronyms for North American fishes are formed in this way. We count 340 species names on the 1980 List, and many more have been employed for subspecies or for nominal species now placed in synonymy.

The early Opinion 8 (1910) ruled that names originally published 'incorrectly' (with respect to the 1905 International Rules) with the ending -ii instead of -i (e.g., *schrankii* instead of *schranki*) were nevertheless to be retained in the original form. In 1948 Opinion 8 was repealed by the Commission (see BZN 4: 67–68), and correction of improperly formed names was thereby required. This issue led to dissension among nomenclaturists, and this debate has continued. In the 1960 AFS List the authors subscribed to the 1948 ruling and emended incorrectly formed '-ii' patronyms. This position was mandatory in the 1961 Code (Art 32) which called for emendation of 'incorrect' original spellings, i.e., those that contravened provisions of Articles 26 to 31. Soon thereafter, to the consternation of many who had attempted to adhere closely to the rules, in the 1964 edition of the Code the Commission reversed itself (see BZN 21: 173), and in Article 32 changed 'Articles 26 to 31' to read 'Articles 26 to 30'. Thus, the termination of 'modern' (non Latin-form) patronyms in -ii was no longer outlawed, but merely recommended against (Recommendation 31A). In the interest of consistency, and in consideration of the continued debate, the practice of emendation was nevertheless continued by the AFS Committee on Names in the 1970 and 1980 Lists.

In the 1985 Code, the 1964 Recommendation 31A once again becomes mandatory, as Article 31a, and this Article is again cited in Article 32 as it had been in the 1961 edition. To assist in understanding the current ruling we exemplify with the genitive form of a name originally proposed as *smithii* in honor of a Mr Smith. Under Article 31a(ii) this spelling should have been *smithi*. Under Article 31a(iii) the original spelling formed under subsection (ii) is to be preserved unless it is incorrect [emphasis added], [Article 32c,d]. Under Article 32c an original spelling is 'an incorrect original spelling' if (i) it contravenes a provision of Articles 27 to 31; or (ii) 'there is in the original publication itself, without recourse to any external source of information, clear evidence of an inadvertent error, such as a lapsus calami or a copyist's or printer's error. . . .' An incorrect original spelling is to be corrected under Article 32d. Thus *smithii*, named for a Mr Smith, is corrected to *smithi*; this is termed a 'justified emendation', and it takes the author and date of the original spelling (Article 33b(ii)).

Hurried reading of the rules may lead to misinterpretation of Article 33d, which states that use of the termination -i in a subsequent spelling in which the correct [our emphasis] original spelling terminates with -ii, or vice versa, constitutes an incorrect subsequent spelling. The key words here are *subsequent spelling*; Article 33 is concerned with subsequent spellings, whereas Article 32 treats original spellings. For example, the aquarium fish known as the Argentine pearlfish (from La Plata) was named *Cynolebias Bellottii*, after Dr Bellotti. The author (Steindachner, 1881) took the entire name as the stem and correctly added -i (Article 31a(ii)), so the correct original spelling, emended only by use of the lower-case *b* (Article 28), is *Cynolebias bellottii*. Some aquarium

books, however, employ *C. bellotti*: as a subsequent spelling this is incorrect and in this form is unavailable (Article 33c).

If in a patronymic name a genitive suffix indicative of the wrong gender (Article 31a(ii)) is used it must be corrected (Art. 32c(ii),d). *Notropis cummingsi* Myers, 1925, the dusky shiner, and *Otophidium scrippsi* Hubbs, 1916, the basketweave cusk-eel, were stated by their authors to be in dedication of Mrs J. H. Cummings and Miss Ellen B. Scripps, respectively. The names are properly corrected to *Notropis cummingsae* and *Ophidion scrippsae*, as done in the 1980 AFS List (p. 24 and p. 31 respectively); some authors have retained the incorrect original spellings.

Article 31a(ii) of the 1985 Code stipulates that the 'stem' of a species-group name formed from a modern personal name is determined by the action of the original author when forming the genitive. For example, the Code notes (p. 63) that *puckridgi* may be formed from Puckridge by deletion of the terminal vowel, although *puckridgei* could also be a correct spelling if used originally. We identify one entry on the 1980 List to be corrected. The yellowtail, *Seriola lalandei* Valenciennes 1833, should be changed to *S. lalandi*, the original spelling. Valenciennes elected to delete the terminal vowel from the name of Lalande.

Two familiar Middle American fish names were formed by deletion of the terminal vowel before addition of the genitive suffix. The mullet, *Joturus pichardi* Poey, 1861, honored the Cuban author Don Esteban Pichardo, and the cichlid *Cichlasoma alfari* Meek, 1907, commemorated the Director of the National Museum of Costa Rica, Dr Anastasio Alfaro. Subsequent insertion of the vowel (to give *pichardoi* and *alfaroi*) would be incorrect. Other correct original spellings in the 1980 List include *Coregonus laurettae* Bean, 1881, for Mrs Lauretta H. Bean, *Exoglossum laurae* (Hubbs, 1931) for Mrs Laura C. Hubbs, and *Etheostoma jessiae* (Jordan & Brayton, 1877) for Mrs Jessie Dewey Brayton.

In the 1980 List the five names in the table below, originally terminating in *-ii*, were emended both by giving the *-i* ending and by changing the 'stem'. None of the surnames has been 'latinized' (e.g. to Whippleius). The names based on Commerson and Broussonet both have originally misspelt stems; their emendation is in accord with their derivations (Article 32d), and probably stability, but not with strict compliance with Article 32c(ii). It can also be maintained that the forms *whipplei* and *duquesni* are permissible: if these spellings had been original they would have been correct, but we consider that as emendations *whipplei* and *duquesnei* are justified.

Patronyms in the genitive emended in the 1980 AFS List

Page	AFS-1980 Entry	Original proposal	Personal name	Common name
25	<i>Notropis whipplei</i>	<i>Cyprinella whipplii</i> Girard, 1856	Whipple	steelcolor shiner
26	<i>Catostomus conunsoni</i>	<i>Cyprinus Commersonii</i> Lacepède, 1803	Commerson	white sucker
27	<i>Moxostoma duquesnei</i>	<i>Catostomus duquesnii</i> Lesueur, 1817	Duquesne	black redhorse
41	<i>Etheostoma whipplei</i>	<i>Boleichthys whipplii</i> Girard, 1859	Whipple	redfin darter
54	<i>Gobiooides broussoneti</i>	<i>Gobiooides Broussonnetii</i> Lacepède, 1800	Broussonet	violet goby

Very many patronyms in the genitive were those proposed with a double terminal *-ii*, but which should now have a single *-i*. As mentioned previously, in the interest of consistency the Committee elected to make this emendation in the 1970 and 1980 AFS Lists, as had been done in 1960. Because of this choice the Committee decision was

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Patronyms emended by deletion of a terminal *-i* to agree with Article 31a(ii) of the Code

Page	AFS-1980 Entry	Original proposal	Common name
11	<i>Eptatretus stouti</i>	<i>Bdellostoma stoutii</i> Lockington, 1878	Pacific hagfish
11	<i>Lampetra ayresi</i>	<i>Petromyzon ayresii</i> Günther, 1870	river lamprey
12	<i>Carcharhinus perezi</i>	<i>Platyodon perezii</i> Poey, 1876	reef shark
14	<i>Raja kincaidi</i>	<i>Raja kincaidii</i> Garman, 1908	sandpaper skate
15	<i>Chilorhinus suensoni</i>	<i>Chilarhinus suensonii</i> Lütken, 1851	seagrass eel
16	<i>Facciolella giberti</i>	<i>Chlopsis gibertii</i> Garman, 1899	dogface witch-eel
17	<i>Ophichthus gomesi</i>	<i>Ophisurus gomesii</i> Castelnau, 1855	shrimp eel
17	<i>Clupea harengus pallasi</i>	<i>Clupea pallasi</i> Valenciennes, 1847	Pacific herring
19	<i>Prosopium coulteri</i>	<i>Coregonus coulterii</i> Eigenmann & Eigenmann, 1892	pygmy whitefish
19	<i>Salmo clarki</i>	<i>Salmo clarkii</i> Richardson, 1836	cutthroat trout
19	<i>Salmo gairdneri*</i>	<i>Salmo gairdnerii</i> Richardson, 1836	rainbow trout
22	<i>Gila orcutti</i>	<i>Phoxinus orcuttii</i> Eigenmann & Eigenmann, 1890	arroyo chub
26	<i>Catostomus clarki</i>	<i>C. clarkii</i> Baird & Girard, 1854	desert sucker
28	<i>Chologaster agassizi</i>	<i>C. agassizii</i> Putnam, 1872	spring cavefish
30	<i>Cryptopsaras couesi</i>	<i>C. couesi</i> Gill, 1883	warted seadevil
30	<i>Nezumia bairdi</i>	<i>Macrourus bairdii</i> Goode & Bean, 1877	marlin-spike
31	<i>Lycenchelys verrilli</i>	<i>Lycodes verrillii</i> Goode & Bean, 1877	wolf eelpout
32	<i>Hirundichthys rondeleti</i>	<i>Exocoetus rondeletii</i> Valenciennes, 1846	blackwing flying fish
33	<i>Fundulus notti</i>	<i>Zygonectes notti</i> Agassiz, 1854	starhead topminnow
34	<i>Xiphophorus helleri</i>	<i>X. hellerii</i> Heckel, 1848	green swordtail
39	<i>Micropterus treculi</i>	<i>Dioplites Treculii</i> Vaillant & Bocourt, 1874	Guadelupe bass
39	<i>Ammocrypta beani</i>	<i>A. beanii</i> Jordan, 1877	naked sand darter
44	<i>Anisotremus davidsoni</i>	<i>Pristipoma davidsonii</i> Steindachner, 1875	sargo

Page	AFS-1980 Entry	Original proposal	Common name
45	<i>Haemulon plumieri</i>	<i>Labrus Plumieri</i> Lacepède, 1801	white grunt
45	<i>Diplodus holbrooki</i>	<i>Sargus holbrookii</i> Bean, 1878	spottail pinfish
46	<i>Roncador stearnsi</i>	<i>Corvina Stearnsii</i> Steindachner, 1875	spotfin croaker
47	<i>Pentaceros richardsoni</i>	<i>P. richardsoni</i> (and <i>P. richardsonii</i>) Smith, 1849 (Follett & Dempster, 1963 chose <i>richardsoni</i>)	pelagic armorhead
47	<i>Tilapia zillii</i>	<i>Acerina zillii</i> Gervais, 1848	redbelly tilapia
48	<i>Hysterocarpus traski</i>	<i>H. traski</i> Gibbons, 1854	tule perch
50	<i>Opistognathus whitehursti</i>	<i>Gnathoprops whitehurstii</i> Longley, 1931	dusky jawfish
51	<i>Stathmonotus hemphilli</i>	<i>S. hemphillii</i> Bean, 1885	blackbelly blenny
52	<i>Plagiogrammus hopkinsi</i>	<i>P. hopkinsii</i> Bean, 1894	crisscross prickleback
53	<i>Callionymus agassizii</i>	<i>C. agassizii</i> Goode & Bean, 1888	spotfin dragonet
54	<i>Coryphopterus nicholsi</i>	<i>Gobius nicholsii</i> Bean, 1882	blackeye goby
57	<i>Scorpaena agassizii</i>	<i>S. agassizii</i> Goode & Bean, 1896	longfin scorpionfish
57	<i>Scorpaena bergi</i>	<i>S. bergii</i> Evermann & Marsh, 1900	goosehead scorpionfish
58	<i>Sebastes gilli</i>	<i>Sebastodes gillii</i> [and <i>gilli</i>] Eigenmann, 1891	bronzespotted rockfish
60	<i>Cottus bairdi</i>	<i>C. bairdii</i> Girard, 1850	mottled sculpin
60	<i>Cottus beldingi</i>	<i>C. beldingii</i> Eigenmann & Eigenmann, 1891	Paiute sculpin
61	<i>Myoxocephalus thompsoni</i>	<i>Triglopsis thompsonii</i> Girard, 1851	deepwater sculpin
62	<i>Rhamphocottus richardsoni</i>	<i>R. richardsonii</i> Günther, 1874	grunt sculpin
62	<i>Triglops pingeli</i>	<i>T. pingelii</i> Reinhardt, 1838	ribbed sculpin
62	<i>Aspidophoroides olrikii</i>	<i>A. olrikii</i> Lütken, 1876	Arctic alligatorfish
62	<i>Bothragonus swani</i>	<i>Hypsagonus swanii</i> Steindachner, 1877	rockhead
66	<i>Aluterus heudeloti</i>	<i>A. heudelotii</i> Hollard, 1855	dotterel filefish
66	<i>Aluterus schoepfi</i>	<i>Balistes schoepfii</i> Walbaum, 1792	orange filefish
96	<i>Esox reichertii</i>	<i>E. reichertii</i> Dybowski, 1869	Amur pike

*The intimate relationship of the Kamchatkan trout (*Salmo mykiss*) and the rainbow or steelhead trout was recognised by Behnke (1966), who refrained from combining the species, in part because of an apparent difference in vertebral count (now known to be erroneous). Okazaki (1984) has clearly demonstrated that they should be recognised as a single species. He suggested (but did not propose) their merger. *Salmo mykiss* Walbaum, 1792, has priority over *Salmo gairdneri* Richardson, 1836, and replaces it. The generic assignment of the western trouts presents an unresolved problem (Kendall & Behnke, 1984).

criticised or ignored by some workers. The reversal of ruling between the 1964 and 1985 Codes therefore brought our usage into compliance with the latest rule, and obfuscating vacillation in spelling was avoided by those who followed the AFS Lists. Some authors, however, employed original spellings during this interim. To clarify the inconsistency we list below those names for which emendation of original spelling (i.e., *-ii* to *-i*) is now required by Articles 31a(ii) and 32c,d.

(2) *Nouns in apposition*

Culminating a period of contradiction and debate, the 1985 Code (Article 31a) now directs that 'A species-group name formed from a personal name may be . . . a noun in apposition . . . [Article 11h(i)]', but, under Recommendation 31A, authors are discouraged from the establishment of a species-group name formed in this way. In the 1961 edition of the Code such use was disallowed and names so formed were subject to automatic correction by adding the appropriate genitive termination. The second (1964) edition of the Code eliminated the correction, following a decision of the 1963 International Congress of Zoology.

In the 1960, 1970, and 1980 editions of the AFS List we consistently emended personal names placed in apposition by adding the appropriate genitive terminations. In view of the current clear directive we now reluctantly have to adopt the original non-genitive spellings. Fortunately, few are in the North American List, all of which were proposed long ago. Regrettably, though, some involve familiar fishes and are commonly used names. These incorrect endings, which are in common use, could be conserved in line with Recommendation 31A of the Code if this were approved by the Commission under its plenary powers. We suggest submission of an application that this be done, so protecting the commonly used genitive-form names under Article 80 of the Code.

Patronymys in apposition with generic name

Correct scientific name	Name and page on 1980 List	Common name
<i>Galeocerdo cuvier</i> (Péron & Lesueur, 1822)	<i>G. cuvieri</i> (12)	tiger shark
<i>Squatina dumeril</i> Lesueur, 1818	<i>S. dumerili</i> (13)	Atlantic angel shark
<i>Dasyatis say</i> (Lesueur, 1818)	<i>D. sayi</i> (14)	bluntnose stingray
<i>Coregonus artedi</i> Lesueur, 1818	<i>C. artedii</i> (18)	cisco or lake herring
<i>Holocentrus poco*</i> (Woods, 1965)	<i>H. poco</i> (34)	saddle squirrelfish
<i>Lophotus lacepede</i> Giorna, 1809	<i>L. lacepedei</i> (35)	crestfish
<i>Micropterus dolomieu</i> Lacepède, 1802	<i>M. dolomieu</i> (39)	smallmouth bass
<i>Haemulon parra</i> (Desmarest, 1823)	<i>H. parrai</i> (45)	sailors choice
<i>Hypsoblennius hentz</i> (Lesueur, 1825)	<i>H. hentzi</i> (52)	feather blenny
<i>Gobiosoma bosc</i> (Lacepède, 1800)	<i>G. bosci</i> (54)	naked goby

*The name *H. poco*, for Mary Ann 'Poco' Holloway, is an appositional nickname not identified as such in the 1980 List.

The name *Myripristis jacobus* Cuvier, 1829, for the blackbar soldierfish, was so used on page 34 of the 1980 List. Jacobus we interpret as the latinized equivalent of James; the species is reported by Jordan & Evermann (1896, p. 847) to be called Frère-Jacque, 'brother Jim', in Martinique.

(3) *Patronyms as adjectives*

Article 31a states: 'A species-group name formed from a personal name may be . . . an adjective or participle [Article 11h(i)].' Under Article 11h(i) such adjective or participle, if a Latin or latinised word, is to be in the nominative singular, and (Article 31b) 'must agree in gender with the generic name with which it is at any time combined, and its termination must be changed according to Latin inflection (Appendix DVII, Table 2], if necessary, when the species is transferred to another genus [Art. 34b]; . . .' The author and date of the species-group name remain unchanged (Articles 34b, 50c(ii), 23c).

Relatively few adjectival patronyms have been proposed as fish names in our area. We identify only the following among currently recognised species and at present no change in spelling is necessitated from the 1980 List.

Patronyms as adjectives

AFS 1980			Common name
Page	Entry	Original proposal	
17	<i>Dorosoma cepedianum</i>	<i>Megalops cepedianus</i> Lesueur, 1818 (for Compte de La Cepède = Citoyen Lacepède)	gizzard shad
22	<i>Hybopsis storeriana</i>	<i>Rutilus storerianus</i> Kirtland, 1842 (for David Humphreys Storer)	silver chub
28	<i>Aphredoderus sayanus</i>	<i>Scolopsis sayanus</i> Gilliams, 1824 (for Thomas Say)	pirate perch
39	<i>Etheostoma fricksium</i>	<i>E. fricksia</i> Hildebrand, 1923 (for L. D. Fricks)	Savannah darter
49	<i>Mugil gaimardianus</i>	<i>M. gaimardianus</i> Desmarest, 1831 (for P. Gaimard)	redeye mullet
51	<i>Chasmodes bosquianus</i>	<i>Blennius bosquianus</i> Lacepède, 1800 (for M. Bosc)	striped blenny
52	<i>Bryozoichthys marjorius</i>	<i>B. marjorius</i> McPhail, 1970 (for Marjorie McPhail)	pearly prickleback

Gender of genus-group names

Article 30 of the 1985 Code concerns the determination of gender of names in the genus group; the wording is little changed from earlier editions, but the examples are somewhat expanded and clarified. For example, Article 30a(ii) [new] specifies that 'A genus-group name ending in -ops is to be treated as masculine, regardless of its derivation or its treatment by the author.' Roughly 250 nominal genus-group names in ichthyology end in -ops, including 11 valid taxa in our fauna.

The suffix -ops is derived from different classical Greek roots, either masculine or feminine, hence the potential for confusion and its removal by the new ruling. The names *Megalops atlanticus* (tarpon), *Acyrtops beryllinus* (emerald clingfish), *Sciaenops ocellatus* (red drum), and *Hypsopops rubicundus* (garibaldi) were entered correctly in

the AFS List of 1980 because the ruling was entered into the Code in 1972 (BZN 29: 182), but all were given feminine endings in one or both of the preceding editions.

The suffix *-gramma*, classically neuter, is added to the examples under Article 30a. Correction of the name for the threeline basslet to *Lipogramma trilineatum* (1980 List, p. 38) is in order. Of wider impact is the Neotropical cichlid genus *Aristogramma*, well known as aquarium fishes and improperly treated by some authors as feminine. As examples, *Aristogramma amoenum*, *A. taeniatum*, and *A. trifasciatum* are correct.

Of concern to students of North American freshwater fishes is recognition that the centrarchid genus *Lepomis*, although almost universally regarded as masculine, is of feminine gender (Article 30a). The name is derived from the Greek *lepis*, f., scale, and *omis*, f., a fish (Brown, 1954, pp. 332, 683). It is of interest that Rafinesque, the original (1819) author, in a later paper (1820) is one of the few to treat *Lepomis* as feminine (e.g., *L. notata*, *L. pallida*, *L. trifasciata*). When proposed in 1819, *Lepomis* was implied to be masculine (e.g., *L. cyanellus*, *L. macrochirus*) and included sunfishes, e.g., 'Labrus auritus des auteurs', the designated type species [= *Lepomis aurita* (Linnaeus, 1758)]. Rafinesque replaced *Lepomis* by *Icthelis* in 1820 and transferred *Lepomis* to 'river bass', *Micropterus* as now understood. The names (1980 List, pp. 38–39) for the following species are corrected, as follows: *Lepomis aurita* (redbreast sunfish), *L. cyanella* (green sunfish), *L. gibbosa* (pumpkinseed), *L. gulosus* (warmouth), *L. macrochira* (bluegill), *L. marginata* (dollar sunfish), *L. punctata* (spotted sunfish), and *L. symmetrica* (bantam sunfish). All were incorrectly assigned masculine endings in the 1980 and earlier lists.

Names for Divisions of Genera

Article 10e of the 1985 Code reads: 'A uninomial name proposed for a genus-group division of a genus, even if proposed for a secondary (or further) subdivision, is deemed to be a subgeneric name even if the division is denoted by a term such as 'section' or 'division'; . . .' The acceptability of secondary subdivisions as available names is new; Article 42d of the 1961 and 1964 Codes granted availability only to primary subdivisions of a genus. To our knowledge this modification poses the potential for nomenclatural change only among catfishes. In the genus *Pinelodus* Lacepède, 1803, Rafinesque (1820, pp. 61–67) proposed as new the subgenus *Ictalurus*, further divided by him into four sections (*Elliops*, *Leptops*, *Ameiurus*, *Ilictis*). Included in the account of *Leptops* is the original proposal of *Opladelus* for *Pinelodus nebulosus* Rafinesque (1820) [= *Pylodictis olivaris* (Rafinesque, 1818), not *Pinelodus nebulosus* Lesueur, 1819]. These genus-group names were included (together with *Noturus* and several Asiatic fishes currently classified in the OLYRIDAE and AKYSIDAE) by Gill (1861b, pp. 49–53) in his group *Ictaluri* of the subfamily PIMELODINAE, thus establishing the family-group name ICTALURIDAE (of which AMEIURIDAE Regan, 1911, is a junior synonym). Among the several genus-group names three represent widely accepted current genera: *Ictalurus* Rafinesque, 1820 (type species, *Pinelodus cerulescens* Rafinesque, 1820 [= *Silurus punctatus* Rafinesque, 1818], by subsequent designation of Gill (1861b, p. 49)); *Noturus* Rafinesque, 1818 (type species, *Noturus flavus* Rafinesque, 1818, by monotypy); and *Pylodictis* Rafinesque, 1819 (type species, *Pylodictis limosus* Rafinesque, 1819 [= *Silurus olivaris* Rafinesque, 1818], by monotypy). *Elliops* is an objective synonym of *Ictalurus*. *Leptops*, *Opladelus* (commonly but incorrectly emended to *Hopladelus*), and *Ilictis* are all subjective synonyms of *Pylodictis* (commonly misspelt *Pilodictis*). The remaining

generic-group name, *Ameiurus*, was long employed for the bullheads, although that spelling was unjustifiably emended to *Amiurus* by Agassiz (1846, p. 17) and by Gill (1861a, p. 44; 1861b, p. 50), as shown by Taylor (1954, p. 43). Since Taylor's merger of the groups most workers have placed the bullheads in the genus *Ictalurus*, sometimes (e.g., Lundberg, 1982) as a subgenus *Amiurus* of that genus. Miller (1986, pp. 124, 135) re-elevated the bullheads to generic level as *Amiurus*. In view of the change in the Code discussed above, *Ameiurus* Rafinesque, 1820 is an available name and *Amiurus* is an unjustified emendation of it.

Reconsideration of Rafinesque's account of his *Silurus cupreus*, the nominal type species of *Ameiurus*, has led us to conclude that it is a subjective synonym of his *Pylodictis limosus*, the type species of *Pylodictis*. To avoid this unfortunate change in the long-familiar *Ameiurus*, whether as genus or subgenus, we have proposed (Bailey & Robins, 1988; BZN 45: 135–137) that the ICZN should designate the included species *Silurus lividus* Rafinesque, 1820 (a subjective synonym of *Pimelodus natalis* Lesueur, 1819) as the type species of *Ameiurus*, so preserving its established meaning.

Family-group names

These apply to 'all taxa at the ranks of superfamily, family, subfamily, tribe and any other rank below superfamily and above genus that may be desired, such as subtribe' (Article 35a), and the principle of priority applies to them. Few ichthyologists have given synonymies of family-group names, and names have come into standard use without attention to priority. Adherence to this provision of the Code will result in some changes in family-group names in fishes, one of which (HAEMULIDAE, based on HAEMULONIDAE of Richardson, 1846 has priority over POMADASYIDAE and thus replaces it) was already documented by AFS in its 1980 (4th) edition. In ichthyology (and in other fields) names like order, family, and tribe had little hierarchical meaning prior to this century. A name proposed as an 'order', if based on a generic name, and if subsequently used as a family-group name is valid and dates from its original proposal. As noted by McCosker (in press) Ophichthycetes proposed by Duméril (1806) as an 'order' but having the same basis as *Ophichthus* Ahl, 1789, is the earliest family-group name, correctly emended to OPHICHTHIDAE, for the family of snake eels. Emendation of this name to OPHICHTHYIDAE is improper (despite example 41 on pp. 226–227 of the Code) since *Ophichthys*, though classically correct, is an unjustified emendation.

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Note by P. K. Tubbs, Executive Secretary of the International Commission on Zoological Nomenclature

This article by Reeve M. Bailey and C. Richard Robins is a valuable survey of the application of the 1985 International Code of Zoological Nomenclature to a large fauna, the names of which have been carefully considered on a number of occasions, from both taxonomic and nomenclatural points of view, by a committee of specialists. Such a scrutiny serves the purpose of drawing attention to instances where the wording of the Code may be ambiguous, or where strict adherence to its provisions may not coincide with the general practice of those who use zoological names.

One example of (perennial) confusion is the termination of species-group names based on modern personal names. Both *-i* and *-ii* have been frequently used since the eighteenth century as genitive terminations of names based on those of recent or living men (patronymics). In early works personal names or even the whole text were Latin, or at least 'latinised', so that either termination was natural, and more recently specific names terminating in *-ii* have often been given, presumably because they give an appearance of classical form. The 1895 Règles prescribed (Article 14, translation) that '... the genitive is always to be formed by the addition of a simple *-i* to the exact and complete name of the person concerned, e.g. *Cuvieri*, ... In the case where the name of the person has been employed and declined in the Latin language the rules of declination should be followed, e.g. *Plinii*, *Aristotelis*, *Victoris*, *Antonii* ...'. This regulation was not adhered to, and the subsequent 'legislative' history has been summarised by Bailey & Robins.

It is a basic principle of zoological nomenclature, embodied in Article 32a of the Code, that the original spelling of a name is to be preserved unaltered unless it is 'demonstrably incorrect'. In pursuit of this most workers have used the original termination, whether *-i* or *-ii*, of modern genitive patronymics. Bailey & Robins (and others) have pointed out, however, that the 1985 Code can be read as directing that names such as *smithii* should be corrected (Articles 31a(ii) and 32c(i)), e.g. to *smithi*, unless explicit latinisation of the personal name (the quotation of Smithius) had been made.

Confusion continues over the *-i* and *-ii* terminations, despite repeated efforts to ensure uniformity. It is clear that both will continue in use in biological names, especially since the 1983 International Code of Botanical Nomenclature supports (Recommendation 73c) the *-ii* form. There are three possibilities for zoological names: (i) to follow the originally published spelling for all names; (ii) to 'correct' *-ii* to *-i* (except in patronymics derived from personal names such as Fabricius or Rossi); (iii) to regard *-i* and *-ii* as being entirely equivalent in all cases, the choice between them being at any user's discretion (the terminations are already treated as the same for purposes of homonymy (Art. 59b)). Similar considerations apply to *-ae* and *-iae*.

It would be most helpful to have the views of zoologists on this matter, and indeed on any other other point arising from the article by Drs Bailey and Robins.